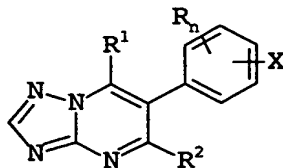


We claim:

1. A triazolopyrimidine of the formula I



I

where the index and the substituents are as defined below:

R¹ is C₁-C₁₀-alkyl, C₂-C₁₀-alkenyl, C₂-C₁₀-alkynyl, C₃-C₁₀-cycloalkyl, C₃-C₁₀-cycloalkenyl, phenyl, naphthyl or a five- to ten-membered saturated, partially unsaturated or aromatic heterocycle which is attached via carbon to the triazolopyrimidine and contains one to four heteroatoms from the group consisting of O, N and S,

where R¹ may be partially or fully halogenated or substituted by one to four identical or different groups R^a:

R^a is halogen, cyano, nitro, hydroxyl, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkylcarbonyl, C₃-C₆-cycloalkyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkoxycarbonyl, C₁-C₆-alkylthio, C₁-C₆-alkylamino, di-C₁-C₆-alkylamino, C₂-C₆-alkenyl, C₂-C₆-alkenyloxy, C₃-C₆-alkynyloxy, C₃-C₆-cycloalkyl, phenyl, naphthyl, a five- to ten-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S, where these aliphatic, alicyclic or aromatic groups for their part may be partially or fully halogenated or carry one to three groups R^b:

R^b is halogen, cyano, nitro, hydroxyl, mercapto, amino, carboxyl, aminocarbonyl, aminothiocarbonyl, alkyl, alkenyl, alkynyl, alkenyloxy, alkynyloxy, alkoxy, alkylthio, alkylamino, dialkylamino,

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formyl, alkylcarbonyl, alkylsulfonyl, alkylsulfoxyl, alkoxy carbonyl, alkylcarbonyloxy, alkylaminocarbonyl, dialkylaminocarbonyl, alkylaminothiocarbonyl, dialkylaminothiocarbonyl, where the alkyl groups in these radicals contain 1 to 6 carbon atoms and the abovementioned alkenyl or alkynyl groups in these radicals contain 2 to 8 carbon atoms and the abovementioned groups may be partially or fully halogenated;

and/or one to three of the following radicals:

cycloalkyl, cycloalkoxy, heterocyclyl, heterocyclxyloxy, where the cyclic systems contain 3 to 10 ring members; aryl, aryloxy, arylthio, aryl-C₁-C₆-alkoxy, aryl-C₁-C₆-alkyl, hetaryl, hetaryloxy, hetarylthio, where the aryl radicals preferably contain 6 to 10 ring members and the hetaryl radicals 5 or 6 ring members, where the cyclic systems may be partially or fully halogenated or substituted by alkyl or haloalkyl groups;

R² is C₁-C₄-alkyl which may be substituted by halogen, cyano, nitro or C₁-C₂-alkoxy;

n is 0 or an integer from 1 to 4;

R is halogen, cyano, C₁-C₆-alkyl, C₂-C₁₀-alkenyl, C₂-C₁₀-alkynyl, C₁-C₆-haloalkyl, C₂-C₁₀-haloalkenyl, C₁-C₆-alkoxy, C₂-C₁₀-alkenyloxy, C₂-C₁₀-alkynyloxy, C₁-C₆-haloalkoxy, C₃-C₆-cycloalkyl, C₃-C₆-cycloalkenyl, C₃-C₆-cycloalkoxy, C₁-C₈-alkoxycarbonyl, C₂-C₁₀-alkenyloxycarbonyl, C₂-C₁₀-alkynyloxycarbonyl, aminocarbonyl, C₁-C₈-alkylaminocarbonyl, di-(C₁-C₈-)alkylaminocarbonyl, C₁-C₈-alkoximinoalkyl, C₂-C₁₀-alkenyloximinoalkyl, C₂-C₁₀-alkynyloximinoalkyl, C₁-C₈-alkylcarbonyl, C₂-C₁₀-alkenylcarbonyl, C₂-C₁₀-alkynylcarbonyl, C₃-C₆-cycloalkylcarbonyl, or a five- to ten-membered saturated, partially unsaturated or aromatic heterocycle which contains one to four heteroatoms from the group consisting of O, N and S;

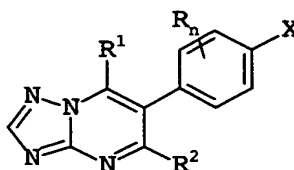
X is SO_m-R^x, NR^xRY or NR^x-(C=O)-RY;

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R^x, R^y : are: hydrogen, C_1 - C_6 -alkyl, C_2 - C_{10} -alkenyl, C_2 - C_{10} -alkynyl, C_3 - C_6 -cycloalkyl, C_3 - C_6 -cycloalkenyl, where the above radicals may be partially or fully halogenated or substituted by cyano, C_1 - C_4 -alkoximino, C_2 - C_4 -alkenyloximino, C_2 - C_4 -alkynyloximino or C_1 - C_4 -alkoxy;

m is 0 or an integer 1 to 3.

10 2. A triazolopyrimidine of the formula I'



I'

where the index and the substituents are as defined below:

20 R^1 is C_3 - C_8 -alkyl, C_3 - C_8 -alkenyl, C_3 - C_8 -alkynyl, C_3 - C_6 -cycloalkyl, C_5 - C_6 -cycloalkenyl; where R^1 may be partially or fully halogenated or substituted by one to four identical or different groups R^a :

25 R^a is halogen, cyano, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_1 - C_6 -alkoxy, C_1 - C_6 -alkoxycarbonyl, C_1 - C_6 -alkoximino, C_2 - C_6 -alkenyloximino, C_2 - C_6 -alkynyloximino, C_3 - C_6 -cycloalkyl, C_5 - C_6 -cycloalkenyl, where the aliphatic or alicyclic groups for their part may be partially or fully
30 halogenated or carry one to three groups R^b :

35 R^b is halogen, cyano, C_1 - C_6 -alkyl, C_1 - C_6 -haloalkyl, C_2 - C_6 -alkenyl, C_2 - C_6 -alkynyl, C_1 - C_6 -alkylcarbonyl, C_1 - C_6 -haloalkylcarbonyl or C_1 - C_6 -alkoxy;

R^2 is C_1 - C_4 -alkyl which may be substituted by halogen;

40 n is an integer from 0 to 2;

R is fluorine, chlorine, bromine, cyano, C_1 - C_6 -alkyl, C_1 - C_6 -alkoxy;

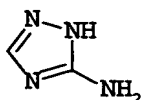
45 X is $SO-R^x$, SO_2-R^x or $NR^x-(C=O)-R^y$;

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R^x , R^y are: hydrogen, C_1 - C_6 -alkyl, C_2 - C_6 -alkenyl or C_3 - C_6 -cycloalkyl, where the above radicals may be partially or fully halogenated.

- 5 3. A process for preparing compounds of the formula I as claimed in claim 1 or 2 which comprises reacting 5-aminotriazole of the formula II

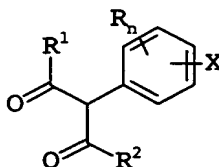
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II

with dicarbonyl compounds of the formula III

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III

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where the substituents R, X, R^1 and R^2 and the index n are as defined in claim 1.

4. A dicarbonyl compound of the formula III, which is defined in claim 3.

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5. A composition suitable for controlling harmful fungi, comprising a solid or liquid carrier and a compound of the formula I as claimed in claim 1.

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6. The use of the compounds I as claimed in claim 1 for preparing a composition suitable for controlling harmful fungi.

7. A method for controlling harmful fungi, which comprises treating the fungi or the materials, plants, the soil or seeds to be protected against fungal attack with an effective amount of a compound of the formula I as claimed in claim 1.

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